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space switch routing wavelength  $\lambda_2$  includes detectors 358<sub>1</sub> and 358<sub>2</sub> that also receive signals from monitoring ports 350<sub>1</sub> and 350<sub>2</sub>. Likewise, a similar pair of detectors is provided for the remaining free space switches depicted in FIG. 3. The detectors that are employed measure the power level of the received wavelength components and may be, for example, conventional broadband photodetectors.

[0034] Returning to the example in which wavelength  $\lambda_2$  is directed from monitoring port 350<sub>1</sub>, it will be seen that wavelength component  $\lambda_2$  will be received by detector 358<sub>1</sub> rather than passing through collimating lens 322. Similarly, if wavelength component  $\lambda_1$  is directed from monitoring port 350<sub>1</sub>, it will traverse thin film filter 301 so that it is received by detector 355<sub>1</sub>.

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#### STATUS OF CLAIMS

Claims 1-50 are pending.

#### REMARKS

This is a preliminary amendment before the first office action.

Claims 1-50 are pending herein.

The specification is amended to correct certain printing errors in which the mathematical symbol " $\lambda$ " printed incorrectly due to a computer/printer error in the originally-filed pages.

Attached hereto is a marked-up version of the changes made to the specification by this preliminary amendment. The attached pages are captioned "Version With Markings to Show Changes Made".

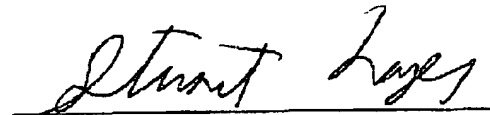
### CONCLUSION

Applicant submits Claims 1-50 are in condition for examination, early notification of which is earnestly solicited. Should the examiner be of the view that an interview would expedite consideration of this Amendment or of the application at large, request is made that the Examiner telephone Applicants' attorney at (908) 518-7700 in order that any outstanding issues be resolved.

### FEES

If there are any fees due and owing in respect of this Amendment, the Examiner is authorized to charge the undersigned attorney's PTO Deposit Account No. 50-1047 accordingly.

Respectfully submitted,

  
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Version With Markings To Show Changes Made

In The Specification:

[0032] FIG. 3 shows an embodiment of a dynamic gain equalizer 300 constructed in accordance with the present invention, which employs the optical switch shown in FIG. 2. In FIGS. 2 and 3 like elements are denoted by like reference numerals. In addition to communication ports  $340_1$ - $340_n$ , the gain equalizer 300 also includes at least one monitoring port that is parallel to the communication ports  $340_1$ - $340_n$ . Two such monitoring ports  $350_1$  and  $350_2$  are depicted in FIG. 3. Similar to the communication ports  $340_1$ - $340_n$ , monitoring ports  $350_1$  and  $350_2$  have collimating lenses  $315_1$  and  $315_2$  respectively associated with them. Each of the monitoring port  $350_1$  and  $350_2$  is situated so that a wavelength component directed from that port is received by the narrow band, free space switch that is used to route that given wavelength component in the previously described manner. However the monitoring ports  $350_1$  and  $350_2$  are situated so that each wavelength component passes through the thin film filter, but not the collimating lens, of the appropriate narrow band, free space switch. For example, if wavelength component  $[\lambda_2]$  is directed from monitoring port  $350_1$ , it will traverse thin film filter 302 but not collimating lens 322. Rather, as described below, wavelength component  $[\lambda_2]$  will be received by a detector associated with the monitoring port  $350_1$ .

[0033] In accordance with the present invention, a dynamic gain equalizer is provided in which each of the narrow band, free space switches include a detector associated with each of the monitoring ports that are provided. For example, in FIG. 3, which employs two monitoring ports  $350_1$  and  $350_2$ , the free space switch routing wavelength  $[\lambda_1]$  includes detectors  $355_1$  and  $355_2$ . Detectors  $355_1$  and  $355_2$  receive optical signals from monitoring ports  $350_1$  and  $350_2$ , respectively. Likewise, the free space switch routing wavelength  $[\lambda_2]$  includes detectors  $358_1$  and  $358_2$  that also receive signals from monitoring ports  $350_1$  and  $350_2$ . Likewise, a similar pair



of detectors is provided for the remaining free space switches depicted in FIG. 3. The detectors that are employed measure the power level of the received wavelength components and may be, for example, conventional broadband photodetectors.

[0034] Returning to the example in which wavelength  $[\textcircled{2}] \lambda_2$  is directed from monitoring port 350<sub>1</sub>, it will be seen that wavelength component  $[\textcircled{2}] \lambda_2$  will be received by detector 358<sub>1</sub> rather than passing through collimating lens 322. Similarly, if wavelength component  $[\textcircled{2}] \lambda_1$  is directed from monitoring port 350<sub>1</sub>, it will traverse thin film filter 301 so that it is received by detector 355<sub>1</sub>.

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